



Welcome to Ground Work

Tiny Grazers: The Benefits of Soil Protozoa

Protozoa are very important when it comes to nutrient cycling in the rhizosphere, especially nitrogen cycling. Protozoa, which are single-celled animals, cruise around in the soil in search of bacteria, fungi, and organic matter to graze. The soil microbes they eat are high in nitrogen, much more nitrogen than the protozoa need. So, protozoa excrete that excess nitrogen in the form of ammonium. This mineralization of nitrogen often occurs in the rhizosphere and the ammonium excreted is then absorbed by plants. Studies have shown that populations of protozoa are correlated with populations of soil bacteria and fungi. In other words, if you have more bacteria and fungi in your soil, then you will also tend to have more protozoa. And the more organisms that inhabit your soil, the better!

More soil organisms = More nutrient cycling = More nutrients available to your crops

When it comes to soil organisms, you want to have a proper ecological balance. You don't want too many protozoa and you don't want too few. A good way to manage the number of protozoa in your soil is to make sure you have a diverse and plentiful microbial population. If you have high numbers of microbes actively breaking down organic matter, fixing nitrogen, solubilizing phosphorus, and outcompeting pathogens for resources, then you will also likely have high numbers of protozoa grazing on those microbes and releasing valuable nitrogen into your soil.